1. Record Nr. UNINA9910879592403321

Autore	Khurana S. M. Paul
Titolo	Approaches for Potato Crop Improvement and Stress Management / / edited by S. M. Paul Khurana, John E. Bradshaw, Vinay Bhardwaj
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	981-9712-23-8
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (498 pages)
Altri autori (Persone)	BradshawJohn E BhardwajVinay
Disciplina	635.21
Soggetti	Agriculture Agricultural biotechnology Agricultural genome mapping Agricultural Biotechnology Agricultural Genetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Potato Genetics for Crop Improvement -- Chapter 2. CRISPR: A promising toolbox for better crops -- Chapter 3. Trends and emerging methods in potato -omics -- Chapter 4. Diploid F1 Hybrid Breeding: A Paradigm Shift in Potato Breeding -- Chapter 5. Breeding new cultivars for biotic, abiotic and quality traits -- Chapter 6. Genetic and genomic approaches to understand tuber development, quality traits, dormancy and sprout growth in potato -- Chapter 7. Soil and tuber-borne diseases of potato -- Chapter 8. Potato Cyst Nematode: resistance, management and quarantine perspectives across the globe -- Chapter 9. Exploring the relationship of potato viruses with aphid and whitefly vectors -- Chapter 10. Potato virus transmission by thrips, hoppers, beetles, nematodes, and fungi -- Chapter 11. Detection techniques for potato viruses and viroids -- Chapter 12. Nutritional significance of potato and its biofortification -- Chapter 13. Glycaemic index and potato: Health aspects -- Chapter 14. Molecular regulation of cold induced sweetening and management methods -- Chapter 15. Sustainable subtropical potato cropping and its management -- Chapter 16. Barcoding of life for detection and diagnosis of diseases

and pests in potato -- Chapter 17. An overview of seed potato production: national and international perspectives.

Sommario/riassunto

This edited book provides an all-inclusive coverage of latest research in crop improvement and stress management in potato crop. It is composed of 17 chapters covering breeding, diseases & pest management with the view to enhancing the total production and quality under the scenario of climate change. The book also explores harvesting, storage, post-harvest management, and processing of potato. The book has special focus on the use of high throughput next generation sequencing (NGS) techniques, modern genomics tools, genome editing techniques such as CRISPR systems that could help the potato breeding programs and, also in development of biotic and abiotic stress resistant varieties. Potato is the world's third most important food crop after wheat and rice in terms of human consumption. It is the staple crop providing maximum nutrients per unit area, time and money and is the most versatile crop with the highest industrial production potential in India being the second largest potato producing country after China. As a major food crop, the potato has the most important role to play in the United Nations' Sustainable Development Goals' 2030 Agenda for zero hunger, achieving food security, improved nutrition, and promote sustainable agriculture. This book is unique in its approach for providing in depth knowledge enabling readers to learn the subject fully on different strategies, new perspectives and fully understanding different topics of diversity, interaction and improvement for stress management in potato. It is a relevant reading material for researchers, students, practitioners and other stakeholders involved in improvement of potato crop.